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THE GREENING OF PERU'S PASTURES

by SUSANA AMAYA

Nature does not seem too kindly disposed toward the inhabitants of the high Andes. Up in the mountains, the temperature gets colder, oxygen becomes rare, and the scenery turns bleak. These altitudes, however, were the setting for great civilizations, such as the Inca empire. The Incas' culture and technology were so advanced that they were able to overcome the rigours of nature.

Their descendants still live in the high Andes, but they have lost their might and have become increasingly poor. The soil — their only means of subsistence — has lost its fertility after centuries of overgrazing, and the water no longer flows through the Inca's famous irrigation systems.

The Andean Sierra in Peru comprises 20 million hectares. A large part of the rural population lives in this mountainous territory, more than 3000 metres above sea level. Livestock production is concentrated here, particularly sheep and the South American camelids that adapt best to the climate and poor pastures. But nutritional deficiencies, particularly a lack of protein and minerals, result in very low productivity, making large imports of meat and dairy products necessary.

These problems led a group of researchers at La Molina National Agrarian University in Lima to undertake research on pasture improvement and feed supplementation under typical Sierra conditions. Their research project, supported by Canada's International Development Research Centre (IDRC), began early in 1978, and already it is bringing hopes of new prosperity to the mountain people.

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The Communal Agricultural Society, SAIS Ramon Castilla Ltd. No. 8, one of the farm cooperatives created by Peruvian agrarian reform, offered ideal conditions for the project. Located in the central Sierra, not too far from Lima , the medium-size sheep enterprise was suffering from serious degradation of the natural pastures. The cooperative members readily agreed to support the project in the hope of finding solutions to their production problems.

There are a number of theories, and considerable research has been done, on ways to improve degraded natural pastures. Fertilization is one, but is very costly. Various alternatives, such as the introduction of pasture legumes, or the systematic use of fallow periods, are being tested by the researchers. The planting of exotic forage species in irrigated plots also appears promising, and it has the added advantage of being the most visible.

First, though, the scientists classified the soils according to their possible uses and their response to irrigation. They identified 200 hectares with tremendous economic potential for the SAIS. Within these, 20 centrally-located hectares were planted to English and Italian ryegrass and red and white clover, all exotic forage species previously selected and tested by the University. An irrigation canal from Inca times was partially restored to bring water to the pasture.

Planting was begun at the beginning of 1979, and cattlemen say the pasture is now "the best one in the high Andes", attracting the attention and curiosity of villagers from surrounding areas, and providing grazing for surplus rams, that would normally have been sold during the dry season. Later, planting will be extended over the 200 irrigable hectares in order to support a dairy herd of 1000 cows whose milk will be processed locally.

Each hectare of natural pasture can support only one head of cattle. Cultivated pasture will support 25 head. So natural pastures will be given a chance to recover, and the SAIS livestock capital will increase.

Another important aspect is that irrigated pastures require manpower: for every 25 hectares, three or four people are needed to irrigate, fertilize the land, and to fence and care for the animals. That means profitable work in an area where unemployment is endemic.

Now the pasture is being evaluated in terms of survival, growth and persistence rates, production of dry matter and nutrients, as well as the animal response to different loads and fertilization systems.

Work is also being done to improve animal nutrition through food supplementation. One experiment used protein, vitamin, and mineral supplements with ewes bred for the first time. The effects, indicated by the weight and the vigour of the newborn lambs, are promising. Work is also being done to improve the health of the livestock.

The president of the cooperative, a burly cattleman called Alfonso Briceno Ortega, waxes lyrical when he talks of the effects of the project so far. The green pasture, he says, is "like a gift from heaven." With a little help from modern science that green will soon spread across the Andean landscape to bring a better life to the descendants of the Incas.

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